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Petri Nenonen

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EXAMINER

CHOWDHURY, AFROZA Y

ART UNIT

PAPER NUMBER

2629

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/508,933	<b>Applicant(s)</b> NENONEN, PETRI	
	<b>Examiner</b> AFROZA Y. CHOWDHURY	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment received on **August 1, 2008** has been entered. Claims 1-22 are currently pending. Applicant's amended claims and arguments are addressed herein below.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1, 7, 11, and 20-22, there is no support for “... **determining a property of the digital image ...** ” in the specification. The specification does not explain how a property of the digital image is determined.

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Regarding claims 1, 7, 11, and 20-22, also there is no support for “... **applying said ... to produce an image transformation of said digital images ...**” in the specification. How the parameters the image transformation of digital images performed is not described in the specification.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 7, 11, and 20-22 are rejected under 35 U.S.C. 102(e) as being unpatentable by **Siwinski** (US Patent 7,102,632).

As to claim 7, Siwinski discloses a mobile device comprising a display unit (fig. 3(10)), an image memory for holding a digital image (fig. 3(42)), and an image improvement unit (fig. 3(38)) for improving said digital image displayed on the display unit (col. 2, lines 30-44), said image improvement unit (fig. 3(38)) being arranged to determine an instantaneous property of the display (col. 2, lines 30-44),

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determine a property of the digital image (col. 2, lines 30-38), and  
determine parameters for said image processing method at least partly on the  
basis of an instantaneous property of the display, and said property of the digital image  
(col. 1, lines 35-43, col. 2, lines 30-38); and

a display processor (fig. 3(38)) for processing the digital image by means of said  
image processing method, while applying said parameters so as to produce an image  
transformation of said digital image for presentation on said display (col. 2, lines 24-44).

Claims 1, 11, and 20-22 are rejected the same as claim 7.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Siwinski**  
(US Patent 7,102,632) in view of **Ohhashi** (US Patent 5,305,204).

As to claim 2, Siwinski teaches a mobile device comprising a display unit (fig.  
3(10)).

Siwinski does not specifically teach a method wherein all measures are repeated  
at a repetition rate.

Ohhashi teaches a digital image display apparatus where all measures are repeated at a repetition rate (fig. 3, col. 3, line 64 – col. 4, line 19).

Therefore, it would have been obvious to one skill in the art at the time of the time of the invention was made to include Ohhashi's idea of applying a method of repeating measures into Siwinski's method of display image in order to improve digital image by repeating all determining and processing actions at a repetition rate.

8. Claims 3–5 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Siwinski** (US Patent 7,102,632) in view of **Ohhashi** (US Patent 5,305,204) and in further view of **Ouderkirk et al.** (US Patent 6,124,971).

As to claim 3, Siwinski (as modified by Ohhashi) discloses a mobile device comprising a display unit (fig. 3(10), in Siwinski).

Siwinski (as modified by Ohhashi) does not explicitly teach detecting a change in instantaneous properties of a display and repeating “determining and processing” measures when a change is detected.

Ouderkirk et al. teaches transreflective display wherein change between ambient and backlighting conditions can be detected, and the measure of polarization depending on those two conditions (col. 14, lines 34-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine the change of the transfective display as taught by Ouderkirk et al. with the mobile device of Siwinski (as modified by Ohhashi) because

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this will provide more efficient, low power consumption, and better brightness and contrast (col. 2, lines 13-17 of Ouderkirk et al.).

As to claim 4, Ouderkirk et al. discloses imaging on a display under ambient and backlighting conditions (col. 14, lines 49-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine the techniques of Ouderkirk et al. the mobile device of Slwinski (as modified by Ohhashi) to develop a method wherein determination of parameters is based on an operation mode of the display to achieve desired display appearance for different display applications.

As to claim 5, Ouderkirk et al. teaches transfective displays with reflective polarizing which increases efficiency and brightness in display (fig. 7-8, col. 2, lines 20 – 26, col. 12–13, lines 41–46, 7–19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine transfective display of Ouderkirk et al. with the mobile device of Slwinski (as modified by Ohhashi) since it will provide low power consumption, better brightness, and increased contrast to produce easily read displays under both ambient and supplemental conditions (col. 2, lines 13-17 of Ouderkirk et al.).

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9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Siwinski** (US Patent 7,102,632) in view of **Ohhashi** (US Patent 5,305,204) and **Ouderkirk et al.** (US Patent 6,124,971) and in further view of **Khan et al.** (US Pub. 20020101554).

As to claims 6, Siwinski (as modified by Ohhashi and Ouderkirk et al.) teaches digital image processing on transfective display (col. lines 13–17, Ouderkirk et al.).

Siwinski (as modified by Ohhashi and Ouderkirk et al.) does not teach any of the sub-methods of saturation increase, color componentwise histogram stretch, and unsharp masking in image processing method.

Khan et al. discloses a method for adjusting color saturation in a display device (page 14, [0145], [0148], fig. 19).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the techniques of Siwinski (as modified by Ouderkirk et al.) with Khan et al. is teachings of adjusting color saturation of a display because this will allow the display of Siwinski (as modified by Ohhashi and Ouderkirk et al.) to have a greatly increased brightness and color purity of the display (col.14, [0145] of Khan et al.).

10. Claims 8–10, 14–16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Siwinski** (US Patent 7,102,632) in view of **Ouderkirk et al.** (US Patent 6,124,971).



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As to claim 14, Siwinski discloses a mobile device comprising a display unit (fig. 3(10)).

Siwinski does not explicitly teach detecting a change in instantaneous properties of a display and repeating “determining and processing” measures when a change is detected.

Ouderkirk et al. teaches transreflective display wherein change between ambient and backlighting conditions can be detected, and the measure of polarization depending on those two conditions (col. 14, lines 34-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine the change of the transflective display as taught by Ouderkirk et al. with the mobile device of Siwinski because this will provide more efficient, low power consumption, and better brightness and contrast (col. 2, lines 13-17 of Ouderkirk et al.).

As to claim 15, Ouderkirk et al. discloses imaging on a display under ambient and backlighting conditions (col. 14, lines 49-55).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine the techniques of Ouderkirk et al. the mobile device of Siwinski to develop a method wherein determination of parameters is based on an operation mode of the display to achieve desired display appearance for different display applications.

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As to claims 8 and 16, Ouderkirk et al. teaches transfective displays with reflective polarizing which increases efficiency and brightness in display (fig. 7-8, col. 2, lines 20 –26, col. 12–13, lines 41–46, 7–19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine transfective display of Ouderkirk et al. with the mobile device of Siwinski since it will provide low power consumption, better brightness, and increased contrast to produce easily read displays under both ambient and supplemental conditions (col. 2, lines 13-17 of Ouderkirk et al.).

As to claims 9 and 18, Siwinski discloses a mobile device comprising a display unit (fig. 3(10)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to combine to incorporate a mobile device wherein said image improvement unit is provided in the display unit in order to improve the quality of display.

As to claims 10 and 19, Siwinski discloses a mobile device comprising a display unit (fig. 3(10)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to incorporate a mobile device wherein an image improvement unit is provided outside the display unit and is arranged to communicate therewith in order to improve the quality of display.

11. Claims 12, 13, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Siwinski** (US Patent 7,102,632) in view of **Ouderkirk et al.** (US Patent 6,124,971) and further in view of **Khan et al.** (US Pub. 20020101554).

As to claims 12, 13, and 17, Siwinski (as modified by Ouderkirk et al.) teaches digital image processing on transfective display (col. lines 13–17, Ouderkirk et al.).

Siwinski (as modified by Ouderkirk et al.) does not teach any of the sub-methods of saturation increase, color componentwise histogram stretch, and unsharp masking in image processing method.

Khan et al. discloses a method for adjusting color saturation in a display device (page 14, [0145], [0148], fig. 19).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the techniques of Siwinski (as modified by Ouderkirk et al.) with Khan et al. is teachings of adjusting color saturation of a display because this will allow the display of Siwinski (as modified by Ouderkirk et al.) to have a greatly increased brightness and color purity of the display (col.14, [0145] of Khan et al.).

### ***Response to Arguments***

12. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AFROZA Y. CHOWDHURY whose telephone number is (571)270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC  
10/27/2008  
/Bipin Shalwala/

Supervisory Patent Examiner, Art Unit 2629